



State of Montana
Department of Natural Resources and
Conservation

Agency IT Plan
Fiscal Year 2012-2017



June 2012

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EXECUTIVE SUMMARY

The impact of rapid technological development over the past two years can be easily seen during meetings at DNRC. Employees across the state have taken advantage of new video conferencing systems to connect with colleagues in remote offices – reducing travel time and expenses for the agency. Continued expansion of the agency video conferencing system and exploration of new remote communications technologies will connect highly mobile staff across the state.

Significant progress has been made in implementation of Geographic Information System technology within the agency. A number of current applications are being evaluated to determine where GIS information can be used to enhance the application for both internal users and the public. Consolidation of GIS data and management practices is a high priority. Application of mobile technologies offers additional opportunities to improve efficiency and effectiveness of DNRC operations by allowing ubiquitous access to critical information. The agency is vigorously pursuing integration of GIS and mobile technologies to enable efficient collection, retrieval, and analysis of geospatial information in the field.

Management of documents is a critical need identified within DNRC. Every division has both electronic and paper documents that are critical to operation of the agency. DNRC is in the process of assessing options for imaging paper documents into an electronic records management system, including pursuit of a pilot project to validate future strategies. This work will integrate with efforts to improve storage and retrieval of electronic files.

In addition to electronic document management, DNRC has plans for updates to a number of critical applications and databases. The Water Rights system is being evaluated for an update, the Contracts and Grants System (CGS) will be updated to an ASP.NET application, functional and infrastructure improvements to several critical systems supporting fire operations are planned, and major enhancements to the Trust Lands Management System will be implemented. Significant work on systems supporting the Conservation and Resource Development Division and Board of Oil and Gas Conservation is also anticipated.

The agency anticipates building new E-government services to access updated applications and databases so the public can interact with the agency online for services such as water rights applications, trust lands data, and hazard reduction agreements. This is another area where mobile applications can offer compelling options for DNRC to provide easier, more efficient public access to government services. Because access to these services often begins with the agency's website, DNRC will also be undertaking a major redesign of its web presence to make it easier to locate relevant, timely, accurate information.

Supporting these IT goals will require a robust IT infrastructure. DNRC has recently reorganized IT staff and operations to report to the Office of Information Technology. As part of this reorganization, the agency has formed a new data and systems management section to oversee and coordinate data management and infrastructure services across the organization. This group will work with applications, GIS, and network services sections as well as SITSD to ensure DNRC systems are robust, maintainable, and scalable while providing access to accurate, timely, consistent data. Addressing availability, recoverability, security, and business continuity are high priorities. Coordination of services across divisions will be crucial to achieving these objectives and ensuring operational and resource efficiency. DNRC is actively working to improve its governance structures to realize these goals while maximizing IT-Business alignment.

SECTION 1: AGENCY ADMINISTRATIVE INFORMATION

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IT Inventory

Data entry into the IT inventory database located at <http://mine.mt.gov/enterpriseitinventory> will be addressed as part of the agency's effort to centralize procurement and management of IT assets.

SECTION 2: AGENCY IT MISSION

DNRC will use IT services to provide quality, cost-effective support for our customers as we work to accomplish our agency mission. We will strive to optimize existing technology and implement new technology that will improve productivity, manage costs, and meet the business needs of the agency.

SECTION 3: AGENCY REQUIRED PROGRAMS

Information Security Management (ISM) Program General Description

The Department of Natural Resources and Conservation, in collaboration with the State Information Technology Services Division, has initiated development of a department-wide (agency) information security management program compliant with §2-15-114, MCA and State Information Technology Systems Division *Information Security Programs* policy with adoption of the National Institute of Standards and Technology (NIST) Special Publication 800 series as guides for establishing appropriate security procedures. This is in alignment with the State Information Technology Service's direction for an enterprise approach to protect sensitive and critical information being housed and shared on State and/or external/commercial information assets or systems.

As described in NIST SP 800-39, the agency has developed and adopted the Information Risk Management Strategy to guide the agency through information security lifecycle architecture with application of risk management. This structure provides a programmatic approach to reducing the level of risk to an acceptable level, while ensuring legal and regulatory mandates are met in accordance with MCA §2-15-114.

The agency's program has four components, which interact with each other in a continuous improvement cycle. They are as follows:

- Risk Frame – Establishes the context for making risk-based decisions
- Risk Assessment – Addresses how the agency will assess risk within the context of the risk frame; identifying threats, harm, impact, vulnerabilities and likelihood of occurrence
- Risk Response – Addresses how the agency responds to risk once the level of risk is determined based on the results of the risk assessment; e.g., avoid, mitigate, accept risk, share or transfer
- Risk Monitoring – Addresses how the agency monitors risk over time; "Are we achieving desired outcomes?"

The agency's information security management program is challenged with limited resources; manpower and funding. While alternatives are reviewed and mitigation efforts are implemented the level of acceptable risk is constantly challenged by the ever changing technology and associated risks from growing attacks and social structure changes. Specific vulnerabilities have been identified which require restructure, new equipment, or personnel positions (funds increase), and are addressed below in our future plans.

DNRC has recently completed an agency-wide reorganization to centralize oversight of technical staff, policy development, and coordination of practices and procedures. IT staff are now part of the Office of Information Technology (OIT), reporting to a Chief Information Officer who in turn reports to the Deputy Director and serves as part of the leadership team. IT is thus directly involved in strategic decision-making, ensuring IT-business alignment and serving to educate and advise leadership on key technology issues. This was a critical first step in achieving the organizational visibility necessary to identify vulnerabilities as well as the ability to implement corrective actions.

Future Security Program Plans

A key component of DNRC's IT reorganization was the creation of a data and systems section within OIT, which will be tasked with (among other responsibilities) developing robust, secure, data and systems management policies and procedures. The Data and Systems Manager will serve as an agency security manager and, in collaboration with the DNRC Network Manager and SITSD Enterprise security, develop strategies to address identified vulnerabilities.

Over this strategic period we plan to:

- Develop and implement standards for data and systems architecture and practices, including data loss prevention, data recovery, log monitoring, and audit procedures;
- Develop and implement policies and procedures to control system and network access based on need, including access by and management of external contractors/vendors;
- Improve visibility and management of hardware and software assets, including implementation of build standards for workstations, laptops, and servers to ensure consistency and secure configurations;

- Control use of administrative accounts including leveraging tools such as PowerBroker to reduce or eliminate the need for privileged user access;
- Implement a mobile device management solution to minimize potential security risks from device compromise or data loss;
- Develop and implement consistent incident response procedures;
- Work to educate leadership and technology users with respect to security awareness, including organizational risk, social engineering, and the need for consistent policies and practices.

Continuity of Operations (COOP) Capability Program General Description

DNRC has joined with the Department of Administration *Continuity Services* for the development of our agency's Continuity of Operations Capabilities, which will provide the plans and structure to facilitate response and recovery capabilities to ensure the continued performance of the State Essential Functions of Government. This program involves two Blocks of focus; the first is to complete the Business Continuity Plans (BCP) involving two phases, the second Block works on the specific business processes or activity plans such as Emergency Action Plans (EAP), Information System Contingency Plan (ISCP), Communications Plans, Incident Management Plans, and more. DNRC is working with the Continuity Services Group to start Block 1. We expect Block 1 to be completed by the end of the Biennium. This program is not a standalone process in that information which is identified and recorded under this structure can and often exists in the Records Management Program and associates with Information Security Management Program requirements.

Integration of these three programs is critical to the confidentiality, integrity, and availability of information, which is associated with each program.

Future COOP Program Plans

DNRC is working with the Continuity Services Group to start Block 1 with completion anticipated by the end of the Biennium. At the conclusion of this process, DNRC, in collaboration with the Continuity Services group, will develop a plan and associated schedule to begin Block 2.

SECTION 4: AGENCY IT PLAN – GOALS & OBJECTIVES

Goal Number 1:

IT Goal 1 Develop DNRC-wide applications that meet agency business requirements, reduce cost, improve efficiency of operations, and enhance security of information assets

Description: Examine current systems and business processes such as document storage and archiving, common-application needs, redundant storage, shared resources and workflows to provide common IT systems that are used across divisions.

Benefits: Eliminates redundant systems, provides for central development of shared resources. Streamlines upgrades, maintenance, and training for applications. Ensures security of information assets. Improves IT-Business alignment.

Which state strategic goal(s) and/or objective(s) does your goal address? Achieve maximum value of information through the active management of information technology. Aggressively use technology to extend capabilities that enhance, improve, and streamline service delivery. Build an infrastructure/architecture that provides citizens and employees of the state access to information however and wherever they need it. Enhance the reliability and security of the state's information systems. Develop and implement an information technology governance structure for delivery of expected benefits.

Supporting Objective/Action

Objective 1-1 Scanning and storage of critical department documents.

Describe the business requirements or business problem driving this objective: Long-term records management, storage, and retrieval are major needs of DNRC. DNRC divisions have storage rooms full of documents that must be retained for long periods of time as mandated by state records management rules. The goal is to establish a document scanning and storage system or process that provides for archival storage of documents and easy retrieval.

Describe the benefits to be derived from the successful completion of this objective: Improved business operations through improved document retrieval, reduced reliance on paper storage. Reduced chance of record loss due to natural disaster.

Describe the anticipated risks associated with this objective: Cost of deploying the system and funding from the Legislature. Additional staff or reassignment of staff to scan documents. User training and implementation. Continued need to retain paper documents to comply with existing statutes.

What is the timeframe for completion of this objective: Agency-wide preliminary evaluation of the scope of this project has been completed. Funding will be requested to initiate a pilot to provide a system for document scanning and storage.

Describe the critical success factors associated with this objective: A centralized system is in place for document scanning and storage and critical records are available/retrievable in a durable electronic format.

Supporting Objective/Action

Objective 1-2 Expenditure tracking system for divisional and bureau budgets.

Describe the business requirements or business problem driving this objective: Division staff in agency offices have requested real-time tracking of expenditures against budgets. The goal is more efficient use of resources, budget management and coordination of spending.

Describe the benefits to be derived from the successful completion of this objective: The greatest benefit is keeping programs from over expending budgets because of delays in getting information. Better ability to transfer funds as needed to meet agency needs.

Describe the anticipated risks associated with this objective: Agreement between operating units on how the system should work. Staff time or budget to build the application. Connecting the information with

SABHRS.

What is the timeframe for completion of this objective: This project is on hold until funding is available. The first step will be development of project requirements. A decision will then be made on proceeding with either internal development, purchase of COTS software, or hiring a contractor.

Describe the critical success factors associated with this objective: Efficient budget management by divisions. Real-time tracking of expenditures and expenses.

Supporting Objective/Action

Objective 1-3 Expand use of video conferencing and related remote communications technologies.

Describe the business requirements or business problem driving this objective: DNRC has offices all across the state. Cost and time for travel impacts staff ability to accomplish their jobs effectively. Expanded use of remote communications tools such as video conferencing and real time communications will reduce travel costs and time while providing for effective communication between DNRC staff in locations across Montana.

Describe the benefits to be derived from the successful completion of this objective: Reduce travel, improve staff efficiency, reduce energy costs for the agency, and improve communication.

Describe the anticipated risks associated with this objective: Additional costs for use of remote communications tools in multiple locations. Impact on the state network.

What is the timeframe for completion of this objective: As of June 2012, DNRC has video conferencing systems in Helena (2), Missoula (2), Kalispell (2), Lewistown, Bozeman, Miles City, Havre, Glasgow, Libby, Swan, and shares a system with DEQ in Billings. The agency is pursuing expanding services to other remote offices where infrastructure permits and budget allows. The agency is exploring the use of additional remote communications tools such as SITS Real Time Communications services and adoption of mobile device technologies.

Describe the critical success factors associated with this objective: Reduced travel time and cost. Improved coordination among geographically dispersed team members. The system is used extensively for inter- and intra- agency meetings involving staff in remote offices.

Supporting Objective/Action

Objective 1-4 Expand use of and enhance performance management software system.

Describe the business requirements or business problem driving this objective: Efficient management of DNRC business operations requires efficient evaluation of the staff running those systems. A highly functional performance management system is needed to allow managers to evaluate employee performance including knowledge, skills and abilities, training needs, and areas of improvement.

Describe the benefits to be derived from the successful completion of this objective: Moving from a paper-based performance management system will allow for more efficient use of management time, ability to track performance metrics across the agency, and improved performance tracking for both managers and employees.

Describe the anticipated risks associated with this objective: Cost of adapting existing performance management system to meet DNRC needs. Employee acceptance.

What is the timeframe for completion of this objective: DNRC has recently adopted the performance management system developed by the Department of Labor and subsequently adopted by the Department of Revenue and Department of Environmental Quality. Customizations and enhancements to support DNRC business processes will be implemented as part of the adoption process.

Describe the critical success factors associated with this objective: Define the critical needs in a software performance management system. Implement business process modifications and enhancements to existing system to meet agency requirements.

Supporting Objective/Action

Objective 1-5 Pursue use of mobile technologies to improve efficiency and effectiveness of DNRC

operations.

Describe the business requirements or business problem driving this objective: DNRC staff are highly mobile and geographically disbursed, often working in remote areas, under adverse environmental conditions. Mobile technologies offer the promise of dramatically improved operational effectiveness and efficiency.

Describe the benefits to be derived from the successful completion of this objective: Improved communication between DNRC staff who are geographically disbursed and highly mobile. Permit access to data-intensive application services by enabling access to such services regardless of location, including geographically remote areas. Reduce cost and improve efficiency of geospatial data collection and analysis through consolidation and integration of hardware and software systems (e.g. leverage a single GPS enabled tablet or other mobile device to automate geographic data collection, data processing and transfer, mapping, and analysis using custom-built mobile applications which integrate with centralized DNRC or other agency systems). Improve service responsiveness by providing DNRC staff with real-time access to critical information resources, without the need to be physically located in their offices.

Describe the anticipated risks associated with this objective: Cost and time to develop internal skills for application and systems development, deployment, maintenance, and use. New, rapidly changing technology landscape. Integration challenges with legacy systems. Security and management challenges associated with rapidly evolving, diverse mobile computing environments.

What is the timeframe for completion of this objective: Ongoing.

Describe the critical success factors associated with this objective: Robust, ubiquitous access to computing resources.

Supporting Objective/Action

Objective 1-6 Implement a mobile device management solution.

Describe the business requirements or business problem driving this objective: Proliferation of mobile devices present management and security challenges. An increasing mix of DNRC owned and personally owned (BYOD) devices exacerbates these challenges. Mitigation of such concerns is critical to expansion of the use of mobile applications for agency operations.

Describe the benefits to be derived from the successful completion of this objective: Effective, reliable, and secure operations. Ability to segregate and secure state and non-state data and applications.

Describe the anticipated risks associated with this objective: Cost of device management solutions. New, rapidly changing technology landscape. Security and management challenges associated with rapidly evolving, diverse mobile computing environments. Cloud based solutions may reduce cost but may also present new challenges such as legal venue and data security.

What is the timeframe for completion of this objective: FY2013.

Describe the critical success factors associated with this objective: Ability to effectively manage multiple devices, including security, configuration, provisioning, and information assurance.

Supporting Objective/Action

Objective 1-7 Explore the use of virtualized desktop infrastructure.

Describe the business requirements or business problem driving this objective: DNRC staff are highly mobile and geographically disbursed. This creates management and security challenges for IT support staff.

Describe the benefits to be derived from the successful completion of this objective: Virtualized desktop infrastructure (VDI) offers the potential to dramatically improve systems management effectiveness and efficiency, including providing greater control of desktop security, maintaining build consistency, easing OS migrations, providing snapshot capabilities for end user desktops, allowing for device flexibility, and reducing energy usage.

Describe the anticipated risks associated with this objective: New service offering from ITSD. Implementation challenges; rapidly changing technology; network limitations; storage limitations; end

user acceptance.

What is the timeframe for completion of this objective: Ongoing, FY2013-FY2014.

Describe the critical success factors associated with this objective: Improved effectiveness and efficiency of system provisioning and support. Usability and flexibility meets client needs. Performance and ease-of-use meets expectations.

Supporting Objective/Action

Objective 1-8 Pursue coordinated, robust, scalable, maintainable, secure systems and data infrastructure.

Describe the business requirements or business problem driving this objective: Accurate, reliable, timely, and secure data services are critical to effective decision-making. Proper architecture is essential to ensuring DNRC services meet operational requirements for availability, recoverability, and business continuity.

Describe the benefits to be derived from the successful completion of this objective: Effective, reliable operations. Where possible, leveraging existing state enterprise resources can provide efficiency and reliability gains. Ability for agency to ensure continuity of government services.

Describe the anticipated risks associated with this objective: Cost of infrastructure upgrades. Challenge of coordinating service requirements across divisions. Management and oversight of external contractors.

What is the timeframe for completion of this objective: Ongoing.

Describe the critical success factors associated with this objective: Implementation of data and systems architecture and management standards across the organization. Ability to set and meet availability and recoverability targets.

Supporting Objective/Action

Objective 1-9 Implement PowerBroker to address administrative access requirements.

Describe the business requirements or business problem driving this objective: Routine use of administrative accounts presents significant security risks and should be restricted wherever possible. However, privileged account access is sometimes required to properly run applications or for unique operational requirements. DNRC has previously purchased PowerBroker to help address these conflicting concerns but has not yet implemented the tool.

Describe the benefits to be derived from the successful completion of this objective: Targeting administrative rights to specific applications or tasks can address security concerns by eliminating the need to grant broad privileged access while simultaneously minimizing end user disruption.

Describe the anticipated risks associated with this objective: Implementation challenges. End user acceptance.

What is the timeframe for completion of this objective: FY2013.

Describe the critical success factors associated with this objective: Reduction in use of administrative accounts across the organization with minimal impact to end user operational requirements.

Supporting Objective/Action

Objective 1-10 Develop and implement an information technology governance structure.

Describe the business requirements or business problem driving this objective: Strategic planning and coordination of information technology projects and policies is a challenge for an organization characterized by a geographically distributed, highly mobile workforce with extremely diverse operational requirements.

Describe the benefits to be derived from the successful completion of this objective: Increased visibility into operational needs and technology/resource constraints. More effective management and improved alignment between IT project portfolio and business requirements. Enhanced collaboration and system interoperability. More efficient use of agency resources.

Describe the anticipated risks associated with this objective: Implementation challenges. Ensuring adequate representation across business units while maintaining decision-making agility and flexibility. Organizational culture.

What is the timeframe for completion of this objective: FY2013/2014.

Describe the critical success factors associated with this objective: Improved coordination, data sharing, and use of resources. Increased alignment of IT project portfolio, policies, and business processes with division operational needs and agency mission.

Goal Number 2:

IT Goal 2 Expand agency information available over the Internet and expand access to E-government services for DNRC

Description: Demand is increasing for electronic access to agency information and services. The goal is to expand information available on the agency website and create at least three new E-government services for the public by the end of FY2014/2015.

Benefits: Electronic access to information and services provided by DNRC to the public.

Which state strategic goal(s) and/or objective(s) does your goal address? Aggressively use technology to extend capabilities that enhance, improve, and streamline service delivery. Build an infrastructure/architecture that provides citizens and employees of the state access to information however and wherever they need it.

Supporting Objective/Action

Objective 2-1 Expand DNRC E-government services available to the public.

Describe the business requirements or business problem driving this objective: Agency customers are asking for E-government services for conducting business with DNRC. The agency has deployed a virtual cashier payment system to allow customers to pay water fees with credit cards at agency offices. However, customers still mail in applications and payments or mail in payments for leases. Projects identified for development in this plan include:

1. Create online water rights applications for form 602 exempt wells.
2. Accept real estate lease payments online.
3. Accept water measurement records online.
4. Improve the online nursery application.
5. Improve public access to Trust Lands data.
6. Develop a variety of GIS applications for access to agency data, including state lands management, water rights, fire, and forestry.
7. Develop an online application process for Hazard Reduction Agreements and/or the WUI fuel reduction and priority landscape grant programs.

Describe the benefits to be derived from the successful completion of this objective: Expanding and improving the ability of citizens and businesses to conduct business with the agency through secure, reliable online systems. Reduced costs for processing of payments, water rights transfers, and requests for information.

Describe the anticipated risks associated with this objective: Access to resources for development of the new E-government services. Updates to current systems to accommodate E-government applications.

What is the timeframe for completion of this objective: Database updates and growth of in-house web application development skills are critical to moving forward with E-government services. Creation of new services is dependent on staff availability and funding.

Describe the critical success factors associated with this objective: Creating three or more new E-government applications for use by the public.

Supporting Objective/Action

Objective 2-2 Continue exploring the use of social media for public outreach.

Describe the business requirements or business problem driving this objective: DNRC has a variety of systems in place for public outreach. These include news releases, publications, websites, mailing lists, etc. The goal is to explore new methods of improving communications with constituents and the public.

Describe the benefits to be derived from the successful completion of this objective: Improved agency outreach and communications. Access to new audiences.

Describe the anticipated risks associated with this objective: Learning about social media (Facebook, Twitter, etc). Development and management of social media policy. Potential negative public feedback.

What is the timeframe for completion of this objective: The agency is pursuing pilot projects to create one or more Facebook groups for outreach for the agency and the use of Twitter for providing fire or other information.

Describe the critical success factors associated with this objective: Effective deployment of a Facebook page and information. Effective use of Twitter. Public use and acceptance of the new media information.

Supporting Objective/Action

Objective 2-3 Redesign DNRC public and internal websites.

Describe the business requirements or business problem driving this objective: DNRC's web presence is dated, poorly organized, and inefficient to maintain.

Describe the benefits to be derived from the successful completion of this objective: Improved agency outreach and communications. Ability of staff and the public to locate relevant, timely, accurate information quickly and easily. Use of robust technology platforms and practices can reduce staff time required to maintain and update web sites.

Describe the anticipated risks associated with this objective: Available resources. Balancing conflicting stakeholder visions for design and architecture.

What is the timeframe for completion of this objective: FY2013/2014.

Describe the critical success factors associated with this objective: Compelling, modern design. Ease of site navigation. Fewer resources needed to maintain and update site presentation and content.

Goal Number 3:

IT Goal 3 DNRC Enterprise GIS

Description: Continue implementation of an Enterprise GIS system for DNRC to provide an organization-wide approach that facilitates the efficient integration, implementation, operation and management of tabular and spatial information.

Benefits: All divisions within DNRC will benefit – particularly Water Resources, Trust Lands, Forestry, Conservation and Resource Development, and Oil & Gas Conservation. DNRC staff will have easy access to the GIS data that is necessary to complete their work (both updates and retrievals). The public will benefit from seeing GIS information in DNRC applications. Other state agencies will not have to recreate GIS data available from DNRC.

Which state strategic goal(s) and/or objective(s) does your goal address? Achieve maximum value of information through the active management of information technology. Aggressively use technology to extend capabilities that enhance, improve, and streamline service delivery. Build an infrastructure/architecture that provides citizens and employees of the state access to information wherever and whenever they need it. Develop and implement an information technology governance structure for delivery of expected benefits.

Supporting Objective/Action

Objective 3-1 Continue to establish a coordinated GIS infrastructure.

Describe the business requirements or business problem driving this objective: Continue

implementation of an agency GIS infrastructure for storage and access to the department's GIS data, files, and products.

Describe the benefits to be derived from the successful completion of this objective: A tiered approach to distribution of GIS data for use at the local, division, agency, and state level. A variety of applications and access options will provide critical data to all users whether they are novice or expert GIS users. Data will be replicated or served via custom applications from a central location to the locations where the data is used.

Describe the anticipated risks associated with this objective: Cost and maintenance of the hardware needed to store and distribute the GIS information. Employee acceptance and participation in new systems and procedures. Potential disruption to existing business processes. Ensuring QA/QC standards and that data stays current on an agency wide scale.

What is the timeframe for completion of this objective: Ongoing.

Describe the critical success factors associated with this objective: Additional data is managed using centralized databases and expanded use of map services for publishing and editing data. Plans developed for data maintenance and workflows built for updating data.

Supporting Objective/Action

Objective 3-2 Develop additional simple GIS applications for use in division business operations.

Describe the business requirements or business problem driving this objective: The deployment of the DNRC Basemap web application in Fall 2011 provided all DNRC staff with the ability to view, query, and display basic GIS data. Many DNRC programs need a simple GIS system designed specifically for their program to assist with geographic analysis and planning. The programs with a need for custom web and desktop based applications include, but are not limited to DNRC's Water Rights, Forest Management, Minerals Management, and Fire & Aviation Bureaus.

Describe the benefits to be derived from the successful completion of this objective: Deployment of simple mapping applications that can be easily accessed by agency staff and the public without installing expensive GIS software.

Describe the anticipated risks associated with this objective: Demand from public and staff for more applications. Accurately assessing program needs to deliver targeted custom products.

What is the timeframe for completion of this objective: Maintenance for DNRC Basemap is ongoing and custom development for other programs is planned for FY2014/2015.

Describe the critical success factors associated with this objective: Better access to program specific data and consistent access to standardized GIS tools for users in all locations. Reduction of training, supporting, and purchasing complex and difficult to use software for our general user base.

Supporting Objective/Action

Objective 3-3 Maintain GIS data sets in centralized databases for use by DNRC, other agencies, and the public.

Describe the business requirements or business problem driving this objective: DNRC staff create GIS data sets in support of their operations. As these data sets are created they need to be shared and published. Another need is the ability for divisions to enhance or expand data sets already in use for their needs and to benefit the agency. Ensuring that these datasets meet our QA/QC standards promotes the concept of creating authoritative and official datasets for use across the agency and by the public.

Describe the benefits to be derived from the successful completion of this objective: Improved sharing of GIS information. Establishing shared GIS data layers and determining methods for updating this information. Common GIS data layers which are regularly updated are required for timely and accurate monitoring, tracking, and reporting obligations..

Describe the anticipated risks associated with this objective: Conflicting needs for information. Incomplete data sets or layers. Need to constantly update the information.

What is the timeframe for completion of this objective: Ongoing.

Describe the critical success factors associated with this objective: Develop quality control guidelines and procedures for creating and publishing data. Continue to publish authoritative DNRC datasets to publically available map services. Expressed and/or demonstrable DNRC staff ownership of data sets.

Supporting Objective/Action

Objective 3-4 Explore and develop GIS applications for mobile devices.

Describe the business requirements or business problem driving this objective: The demand for geospatial data in the office, the field, and from the public is increasing. To keep up with this need, DNRC is exploring the use of new and developing technologies such as map services, interactive web mapping applications, custom desktop applications, and mobile applications. The ability to view and edit GIS data from the field or wherever you may be located is becoming critical. There is also a need to convert existing field data collection applications and workflows to modern, easy to use platforms.

Describe the benefits to be derived from the successful completion of this objective: Staff and members of the public will have access to view and edit the appropriate data from a variety of locations. For example, staff in DNRC's Fire and Aviation Management bureau could relay real time information about a fire's location using this technology. All DNRC Divisions could benefit from new mobile GIS tools that allow users to navigate, collect data, and share information.

Describe the anticipated risks associated with this objective: Evaluating and determining the appropriate technology to use. Some of these technologies are still in development and rapidly changing. Ensuring that data served via mobile services is secure and accurate.

What is the timeframe for completion of this objective: Ongoing.

Describe the critical success factors associated with this objective: Assessing DNRC needs and determining the appropriate tools to meet these needs. Developing products that successfully provide information across a variety of platforms.

Supporting Objective/Action

Objective 3-5 Use geospatial data for modeling and analysis projects.

Describe the business requirements or business problem driving this objective: As a natural resource management agency, DNRC often has to analyze complex systems and environments to determine the best policy or course of action.

Describe the benefits to be derived from the successful completion of this objective: GIS has the ability to analyze complex datasets and multiple factors, providing guidance and critical information for the decision-making process. Currently DNRC's GIS data is used mostly for display and simple queries, which does not make full use of the data's capabilities. GIS analysis allows the agency to predict changes in landscape over time, detect patterns and trends, and identify critical areas of concern. Examples of geospatial analysis that would benefit DNRC programs include hydrologic and floodplain modeling, land management planning, and wildfire risk assessments.

Describe the anticipated risks associated with this objective: Communicating benefits of geospatial analysis to program staff.

What is the timeframe for completion of this objective: Ongoing.

Describe the critical success factors associated with this objective: Utilizing available data to its full potential as a decision-making and predictive tool. Developing standard models for common analytical processes that can be used across the department. Expanded access to GIS modeling and analysis expertise across agency programs.

Supporting Objective/Action

Objective 3-6 Enhance existing non-spatial databases to take advantage of GIS technology.

Describe the business requirements or business problem driving this objective: DNRC maintains non-spatial databases that could provide additional benefits if the data was geospatially enabled. Some examples include databases for fire tracking, trust lands management, and grant tracking. Staff and the public often

need to see this information shown on a map and this is currently a complicated process that requires significant GIS skills and training.

Describe the benefits to be derived from the successful completion of this objective: As an agency that manages natural resources in locations across the state, the ability to answer questions about where agency work takes place is critical. Using GIS provides a simple way to display and organize data. For example, if one wanted to know more about where grants were awarded in the state or where wildfires had occurred, displaying such information on a map would provide a visual and easy to understand means to answer to such questions. It also enables staff to analyze patterns and query data based on location.

Describe the anticipated risks associated with this objective: Employee acceptance and participation in new systems and procedures. Communicating benefits of geospatially enabling data.

What is the timeframe for completion of this objective: Ongoing.

Describe the critical success factors associated with this objective: Data previously used only as tabular information is maintained as geospatially enabled data or linked to appropriate GIS data.

Goal Number 4:

IT Goal 4 Improve efficiency of Water Resource Division IT applications

Description: Continue legislatively mandated water rights adjudication and expand access to water rights, water use, emergency action plans, seepage monitoring, and dam safety information used inside the department and by the public. Upgrade applications to the latest development standards as determined by OIT and SITSD.

Benefits: Improved access to information used in decision-making within the agency and by the water courts. Improved access to information by citizens and businesses.

Which state strategic goal(s) and/or objective(s) does your goal address? Aggressively use technology to extend capabilities that enhance, improve, and streamline service delivery. Explore and implement technology to enhance accessibility, availability, and usability of information. Leverage robust technology platforms.

Supporting Objective/Action

Objective 4-1 Improve electronic document storage and retrieval system.

Describe the business requirements or business problem driving this objective: Originally, the thinking was that one system would fit all users' needs. A system developed by the Water Management Bureau was to be modified to fit other programs. However, it became evident that each program's needs were sufficiently unique to require an independent document tracking system for each. The dam safety program developed its own internal document tracking system and the floodplain program is now doing likewise.

Describe the benefits to be derived from the successful completion of this objective: Improved access to project documents for business operations.

Describe the anticipated risks associated with this objective: Cost for development and maintenance of infrastructure and external providers.

What is the timeframe for completion of this objective: Ongoing.

Describe the critical success factors associated with this objective: Expansion of document tracking system to additional document categories.

Supporting Objective/Action

Objective 4-2 Continue document scanning for Water Rights.

Describe the business requirements or business problem driving this objective: Water Resources Division is in the midst of a multi-year program to scan all water rights records into digital format. This information is needed for water rights adjudication, any new appropriation of water, water courts, and overall water rights management. Expansion of this system for records compiled by the Reserve Water

Rights Compact Commission is anticipated in FY2014.

Describe the benefits to be derived from the successful completion of this objective: Continued scanning will create a complete digital record of water rights in the State of Montana. This has replaced use of microfilm for record keeping as of 2007. Both the water rights database and scanned images function in unison to provide both staff and the public with vital tools necessary to effectively work with water rights data. They both aid in researching and analyzing historically based water rights questions. The water rights database and scanned images will continue to be a necessary component in the management of Montana's water rights data for as long as DNRC is tasked with managing a centralized recordkeeping system.

Describe the anticipated risks associated with this objective: Continued funding.

What is the timeframe for completion of this objective: Ongoing.

Describe the critical success factors associated with this objective: Progress is being made on scanning all of the past water rights and this portion of the project is expected to be complete by FY2015. In addition to this project, all new water rights files and documents updating existing water rights files are being scanned, which will be ongoing. Another future scanning project is planned to determine if the staff and expertise developed in scanning Water Rights documents can be transferred to other needs within the agency.

Supporting Objective/Action

Objective 4-3 Update dam seepage monitoring database and application.

Describe the business requirements or business problem driving this objective: Updates are needed to this system to allow for improved business decision-making.

Describe the benefits to be derived from the successful completion of this objective: Improved access to dam seepage information, improved performance, and expanded search. Improvements to public safety through better monitoring of dams.

Describe the anticipated risks associated with this objective: Funding and staff time are limited for working on this application. The application was originally developed by FEMA.

What is the timeframe for completion of this objective: Before next SQL server update.

Describe the critical success factors associated with this objective: Updated application is compatible with SQL server update.

Supporting Objective/Action

Objective 4-4 Evaluate needs and update the Water Rights application and database.

Describe the business requirements or business problem driving this objective: Continue Water Rights database application updating to meet business needs of the agency and the state Water Courts for both tabular and spatial data. Expansion of this system to include water rights administered by Flathead Reservation Unitary Water Management Board is anticipated by FY2014.

Describe the benefits to be derived from the successful completion of this objective: Improved data integrity, agency and public access to data, better business processes, more user friendly, and can be more easily adapted.

Describe the anticipated risks associated with this objective: Funding and staff time.

What is the timeframe for completion of this objective: Ongoing.

Describe the critical success factors associated with this objective: Updates and modernization of the database and application. Improved public access to data.

Supporting Objective/Action

Objective 4-5 Update the Division's contact database and evaluate migration to MS SQL Server environment.

Describe the business requirements or business problem driving this objective: Updates are needed to this system to allow continued access to Division-wide stakeholder contact information and improve

reliability.

Describe the benefits to be derived from the successful completion of this objective: Shared contact information between the various Division programs that deal with the same stakeholders. When one group receives and update (email, address, etc.) all do.

Describe the anticipated risks associated with this objective: Cost of SQL server hosting has to date resulted in the Division maintaining this application as a single MS Access file located on a local server.

What is the timeframe for completion of this objective: FY2013.

Describe the critical success factors associated with this objective: All staff have access to a single, reliable source for contact information.

Goal Number 5:

IT Goal 5 Improve central applications for managing Contracts, Grants, Loans, Restoration Projects and other systems used to manage DNRC resources

Description: Continue improvements to agency systems for tracking contracts, grants, loans, restoration projects, legal documents, computer inventory, and special projects.

Benefits: All divisions within DNRC will benefit from improved systems for tracking operational information within the agency.

Which state strategic goal(s) and/or objective(s) does your goal address? Aggressively use technology to extend capabilities that enhance, improve, and streamline service delivery. Explore and implement technology to enhance accessibility, availability, and usability of information. Leverage robust technology platforms.

Supporting Objective/Action

Objective 5-1 Maintain the agency CGS tracker.

Describe the business requirements or business problem driving this objective: CGS is the main DNRC system for tracking contracts and grants. Ongoing support on the system will maintain efficiency, data reporting, and fiscal compliance. Going forward, new development will be restricted to necessary changes that cannot wait for a replacement system to be designed, developed, and delivered.

Describe the benefits to be derived from the successful completion of this objective: Ability to determine where state dollars are spent on agency projects and state grants administered by DNRC.

Describe the anticipated risks associated with this objective: Development and support of CGS may reduce the amount of resources spent on redesigning a replacement.

What is the timeframe for completion of this objective: Ongoing FY2013.

Describe the critical success factors associated with this objective: The system is currently in operation and contains 95 percent of features requested by users. Necessary updates will be performed to maintain agency reporting and tracking needs.

Supporting Objective/Action

Objective 5-2 Redesign CGS as an ASP.Net web application.

Describe the business requirements or business problem driving this objective: Redesigning CGS's database and web application will allow for corrections to its architecture to greatly enhance data integrity while moving from Java Server Pages to ASP.NET. Currently, a great deal of time is spent manually correcting data on the backend, especially during Fiscal Year end.

Describe the benefits to be derived from the successful completion of this objective: Support agency initiative to move towards .NET platform. Increased cross developer support. Financial accuracy will be greatly improved. Transactions will be redesigned to more closely model agency needs.

Describe the anticipated risks associated with this objective: Support time spent on CGS will detract from redesign efforts. Data export from old system to new system may be larger task than expected.

What is the timeframe for completion of this objective: Mid to late FY2013. This application will be

developed with internal staff.

Describe the critical success factors associated with this objective: System up and running with 100% of previous system functionality and CGS data imported into new system.

Supporting Objective/Action

Objective 5-3 Establish a program for tracking the state revolving fund.

Describe the business requirements or business problem driving this objective: Improved method for tracking the state revolving fund.

Describe the benefits to be derived from the successful completion of this objective: Better fiscal management of state resources. Reduced staff time for tracking the revolving fund and entering data from the funds into SABHRS.

Describe the anticipated risks associated with this objective: Time and staffing.

What is the timeframe for completion of this objective: FY2014/2015. This application will be developed with internal staff.

Describe the critical success factors associated with this objective: Development of an application or methods to better handle revolving fund information.

Supporting Objective/Action

Objective 5-4 Improve the quality of the Legal Tracker.

Describe the business requirements or business problem driving this objective: Legal Tracker is a document management system in use by legal staff to research legal issues in the department. Enhanced functionality will aid the legal staff in their day-to-day duties.

Describe the benefits to be derived from the successful completion of this objective: Continued development will improve access, functionality, and reliability.

Describe the anticipated risks associated with this objective: Insufficient time and staffing may slow time to completion of requested enhancements.

What is the timeframe for completion of this objective: Ongoing through FY2013/2014.

Describe the critical success factors associated with this objective: Reduce personnel hours by automating some processes while enhancing existing functionality to improve productivity.

Goal Number 6:

IT Goal 6 Enhance the Trust Lands Management System (TLMS)

Description: Continue fixing bugs from the .NET conversion as well as providing new business management features to TLMS.

Benefits: Improved management of state trust land assets, staff access to trust data, and customer access to trust land information.

Which state strategic goal(s) and/or objective(s) does your goal address? Aggressively use technology to extend capabilities that enhance, improve, and streamline service delivery. Build an infrastructure/architecture that provides citizens and employees of the state access to information however and wherever they need it.

Supporting Objective/Action

Objective 6-1 Post-transition TLMS improvements.

Describe the business requirements or business problem driving this objective: Continue to fix bugs associated with the TLMS conversion to .NET.

Describe the benefits to be derived from the successful completion of this objective: Stable and robust TLMS front-end interface and business processes, capable of linking to SQL Server software upgrades.

Describe the anticipated risks associated with this objective: Conversion of TLMS front-end from

Access 2003 to .NET may take longer than anticipated, or may not meet division goals.

What is the timeframe for completion of this objective: FY2013.

Describe the critical success factors associated with this objective: TLMS running more smoothly with less downtime for division staff.

Supporting Objective/Action

Objective 6-2 New TLMS business management development.

Describe the business requirements or business problem driving this objective: Address new development to expand the capabilities of TLMS, such as enhancements to track lease stipulation monitoring, ability to upload photographs, and remote access.

Describe the benefits to be derived from the successful completion of this objective: Improved management of trust land assets and increased revenue generation for trust beneficiaries.

Describe the anticipated risks associated with this objective: Improvements may cause conflicts with current operations. Improvements may take longer than anticipated or may not meet all divisional goals.

What is the timeframe for completion of this objective: FY2013/2014.

Describe the critical success factors associated with this objective: Give division staff new tools to more effectively manage resources.

Supporting Objective/Action

Objective 6-3 Continue Integration of TLMS with Enterprise GIS.

Describe the business requirements or business problem driving this objective: Expand on the basic GIS ability that TLMS provides and allow external GIS applications to access basic information about leases stored in TLMS.

Describe the benefits to be derived from the successful completion of this objective: Improved management of trust land assets and increased revenue generation for trust beneficiaries. Decreased time and cost expended on maintenance of spatial data. Improved collaboration among staff.

Describe the anticipated risks associated with this objective: Implementation of Enterprise GIS capability may take longer than anticipated, or may not meet all divisional goals.

What is the timeframe for completion of this objective: Ongoing, depends on yet-to-be-determined requirements.

Describe the critical success factors associated with this objective: Ability of division staff to efficiently access and utilize spatial land data.

Supporting Objective/Action

Objective 6-4 Enhance web access to TLMS data.

Describe the business requirements or business problem driving this objective: Much of the data in TLMS is useful to the public and potential lessees. Examples include potential oil and gas lease opportunities, land banking sales and associated documents, status of state trust lands, real estate management and agricultural leases. The goal is to make more data available to the public and improve the functionality of web access to the application.

Describe the benefits to be derived from the successful completion of this objective: Improved access for customers and public, improved functionality and navigation. Integration with the common look and feel of agency websites. Access to E-government services related to TLMS will be incorporated with the improved web access.

Describe the anticipated risks associated with this objective: The current web site is severely lacking in design and implementation. A complete rewrite of the website will be needed.

What is the timeframe for completion of this objective: TBD. Requirements definition could be accomplished FY2013.

Describe the critical success factors associated with this objective: Customers and public able to interact with trust land programs and obtain data they need and desire.

Supporting Objective/Action

Objective 6-5 Trust Land document management and retrieval.

Describe the business requirements or business problem driving this objective: Critical land ownership, easement, leasing and other documents need to be converted to optical format to make them available to agency staff and to ensure critical documents will not be lost through human error or deterioration of documents themselves.

Describe the benefits to be derived from the successful completion of this objective: Time and resource efficient availability and security of critical land ownership and related documents.

Describe the anticipated risks associated with this objective: Implementation may take longer than anticipated or may not meet division goals for access to equipment, capacity of equipment, and software to convert documents in a timely and cost effective manner.

What is the timeframe for completion of this objective: Currently within Trust Land Management Division a number of legal documents are scanned for online access. These include granted and acquired easements and agricultural lease documents. The scanning is done without optical character recognition so no keyword searches are available. The goal is a standard document scanning and retention system with keyword or whole text search capabilities. This system will be part of the agency-wide document storage and management system identified in Goal 1. Development is dependent on budget allocation.

Describe the critical success factors associated with this objective: Key documents readily accessible through TLMS, with all key documents converted to optical format and securely stored.

Goal Number 7:

IT Goal 7 Enhance a variety of applications in Trust Land Management Division

Description: Update to critical applications within TLMD that support programs such as Ag and grazing, timber sales, timber management, minerals management, and real estate management.

Benefits: Improved management of state trust land assets, staff access to trust data, and customer access to trust land information.

Which state strategic goal(s) and/or objective(s) does your goal address? Aggressively use technology to extend capabilities that enhance, improve, and streamline service delivery. Explore and implement technology to enhance accessibility, availability, and usability of information. Leverage robust technology platforms.

Supporting Objective/Action

Objective 7-1 Develop an automated backup system for user personal computers.

Describe the business requirements or business problem driving this objective: The agency relies on users to store critical documents on agency servers where the files are backed up. Some users store documents directly on their PCs and data may be lost if the computer crashes.

Describe the benefits to be derived from the successful completion of this objective: An automated backup system would allow users to store files locally on their computer, but have a backup of the files on a server.

Describe the anticipated risks associated with this objective: Development of an internal system will require continued maintenance. User communications and training would be critical for successful operation. Windows updates may make this system obsolete.

What is the timeframe for completion of this objective: TBD.

Describe the critical success factors associated with this objective: Improved backup of user data.

Supporting Objective/Action

Objective 7-2 Develop a geospatial right-of-way database.

Describe the business requirements or business problem driving this objective: Development of this data set will allow forester to determine legal access to proposed timber sales with greater ease.

Describe the benefits to be derived from the successful completion of this objective: This system and database will help in developing cost-share/reciprocal road maintenance fees. Right-of-way specialists and other DNRC employees can use this for determining legal access or planning staged acquisitions.

Describe the anticipated risks associated with this objective: Staff availability. Must be compatible with agency GIS systems and TLMS.

What is the timeframe for completion of this objective: Dependent on TLMS development. Development would begin in FY2013 or FY2014.

Describe the critical success factors associated with this objective: Electronic access to Right-of-way records.

Goal Number 8:

IT Goal 8 Update and improve applications critical to operations of Forestry Division

Description: Continued work on applications that support the efforts of the Forestry division to fight fires, manage fire costs, safely deploy personnel and operate the state nursery.

Benefits: Improved fiscal management of divisional operations. Integration of separate systems and improved customer service.

Which state strategic goal(s) and/or objective(s) does your goal address? Aggressively use technology to extend capabilities that enhance, improve, and streamline service delivery. Explore and implement technology to enhance accessibility, availability, and usability of information. Leverage robust technology platforms.

Supporting Objective/Action

Objective 8-1 Migrate Property Inventory databases in Equipment Development Center from Lotus Approach to a single modern, supported database platform.

Describe the business requirements or business problem driving this objective: DNRC obtains federal excess property and develops it into fire suppression equipment. This equipment is used primarily to support the State/County Cooperative Fire Protection Program as well as to support our Direct Protection, Communications, and Aviation programs. DNRC will acquire and transfer ownership of Federal Firefighter Property (FFP) equipment suitable for conversion into a firefighting or fire prevention apparatus, to be used in direct support of firefighting, a firefighting apparatus, or emergency services. The DNRC Purchasing Agent has three Lotus Approach databases that track Property Acquisition inventory, consisting of millions of dollars worth of equipment. These databases track state property, Federal Excess Property (FEPP), and the Federal Firefighter Property (FFP property). These are mission-critical databases to the DNRC Fire program.

Describe the benefits to be derived from the successful completion of this objective: Lotus Approach is no longer supported within DNRC and will not run when the agency upgrades to Windows 7. In addition, the databases have many copies with some valid data in each. Consolidating data into a single database will allow the program to ensure accuracy, consistency, durability, and recoverability of critical data while improving operational efficiency.

Describe the anticipated risks associated with this objective: Potential data loss or migration errors.

What is the timeframe for completion of this objective: FY2014/2015.

Describe the critical success factors associated with this objective: Improved accuracy, consistency, durability, and recoverability of critical data. System effectively supports property tracking business process requirements.

Supporting Objective/Action

Objective 8-2 Upgrade DNRC Aircraft Maintenance system.

Describe the business requirements or business problem driving this objective: DNRC's Aircraft Maintenance application tracks all maintenance and parts related to DNRC aircraft. The application presently consists of a central MS Access database with multiple MS Access front-ends, all developed by the DNRC's Chief Mechanic of the Aviation Section. This is a very thorough, complete, and mission-critical database. Database synchronization is currently achieved via a 3rd party solution which no longer works very well and in the near future will not be supported on modern operating system platforms. Operational requirements for field maintenance require maintenance personnel to often work in remote areas, without reliable network connectivity. Federal Aviation Regulations require accurate, timely, and durable maintenance records. These business requirements necessitate system support for high availability, recoverability, and asynchronous database transaction management.

Describe the benefits to be derived from the successful completion of this objective: This is a mission-critical system required to support aircraft operations. Migration to an enterprise-class relational database system will ensure accuracy, consistency, durability, and recoverability of critical data while improving operational efficiency for maintenance personnel.

Describe the anticipated risks associated with this objective: Data loss or inconsistency, or impacts to system availability/stability during or after migration could severely impact mission-critical Aviation program operations.

What is the timeframe for completion of this objective: System planning to begin FY2013/2014. Complete upgrade by fire season 2015.

Describe the critical success factors associated with this objective: Maintaining current user/business process functionality. Infrastructure and processes support system availability, data quality, and data recoverability requirements. Transaction auditing capabilities meet state, agency, and FAA standards.

Supporting Objective/Action

Objective 8-3 DNRC Fire Finance system.

Describe the business requirements or business problem driving this objective: Fire statistics from the F1000 fire database include costs per fire components that are currently input manually. This method is static and does not capture fire cost changes as they are updated. Fire Finance currently uses a Microsoft Access database with multiple tables that are linked to Excel pivot tables and are accessed by a single person. The Division would like the Finance system to utilize a SQL back-end that can export data when updated, to the F1000 Fire Reports system for the costs per fire. The system also needs an entry screen to enter non-SABHR expenses, i.e. bills from the Forest Service, BLM, and other agencies.

Describe the benefits to be derived from the successful completion of this objective: A unified system for fire finances would allow for better tracking of fire fighting expenses, cost estimating for fires, reimbursement of costs from partner agencies and improved tracking of finances for auditing.

Describe the anticipated risks associated with this objective: Cost and time for development of a new system.

What is the timeframe for completion of this objective: Kickoff in Fall 2014 with completion in FY2015.

Describe the critical success factors associated with this objective: Establishing a unified financial system to better track the cost of fighting wildland fires.

Supporting Objective/Action

Objective 8-4 Enhance flight log system.

Describe the business requirements or business problem driving this objective: Compiling flight log information using paper forms is inefficient and time-consuming. An electronic system for entering and maintaining flight log information has dramatically improved flight operations. The system currently allows pilots to use laptops for secure, remote system access. Additional functional and infrastructure

enhancements that could further increase the system's utility and reliability are being evaluated. For example, access via mobile devices such as tablets could potentially reduce pilot workload while increasing operational flexibility.

Describe the benefits to be derived from the successful completion of this objective: The flight log application and database provides timely statewide fire flight cost information to DNRC Forestry Division for submittal to the Office of Budget and Program Planning (OBPP). It has significantly improved operational efficiency and safety as well as improving the fire flight billing process, making it more efficient, faster, and cost-effective. Evaluation of the data compiled can also be used in the operations budgeting and planning process.

Describe the anticipated risks associated with this objective: Cost of external contractor. Data accuracy and consistency. Ensuring system availability during critical operational periods.

What is the timeframe for completion of this objective: Ongoing.

Describe the critical success factors associated with this objective: System supports stakeholder business requirements. Infrastructure and processes support system availability, data quality, and data recoverability requirements. Transaction auditing capabilities meet state, agency, and FAA standards.

Supporting Objective/Action

Objective 8-5 Migrate divisional databases from Lotus Approach to newer databases.

Describe the business requirements or business problem driving this objective: Many divisional databases were developed in Lotus Approach, which is no longer supported.

Describe the benefits to be derived from the successful completion of this objective: Lotus Approach is no longer supported within DNRC. Some Forestry employees have created databases in Lotus Approach that need to be converted to supported database applications such as SQL Server and newer versions of Microsoft Access (e.g. the communications group and fire prevention group still have multiple small Lotus databases).

Describe the anticipated risks associated with this objective: Many small databases will be converted by individual groups – insufficient training could result in data loss.

What is the timeframe for completion of this objective: Ongoing – must be completed before DNRC migration to Windows 7.

Describe the critical success factors associated with this objective: Conversion of critical databases to newer, supported databases prior to Windows 7 rollout.

Supporting Objective/Action

Objective 8-6 Enhance F300 and F1000 system.

Describe the business requirements or business problem driving this objective: The Fire and Aviation Bureau needs to increase the scope of incident data tracked. This includes expanding the supplemental documents section to accept a wider range of document types and monitoring team involvement in fires by adding data fields to track incident commanders and incident types for each fire.

Describe the benefits to be derived from the successful completion of this objective: Ability to analyze incident related data such as type 1/type 2 team assignments, budget expenditures by IMT fire type, etc.

Describe the anticipated risks associated with this objective: Cost of external contractor. Data accuracy and consistency. Ensuring system availability during critical operational periods. Incorporation of additional data into business processes.

What is the timeframe for completion of this objective: FY2014/2015.

Describe the critical success factors associated with this objective: Infrastructure and processes support system availability, data quality, and data recoverability requirements. Enhancements meet business requirements. Documentation is updated to reflect system changes.

Supporting Objective/Action

Objective 8-7 Agency fire mapper.

Describe the business requirements or business problem driving this objective: Need to access and interact with field data in fire management systems.

Describe the benefits to be derived from the successful completion of this objective: DNRC Fire Mapper is a web-based application that allows engine bosses and other stakeholders to view and update fire incident data in a GIS format. The application is being evaluated for enhancements including mobile application development. It provides an easy and powerful means to make fire data available for internal stakeholders and the public.

Describe the anticipated risks associated with this objective: Ability to purchase additional mobile devices for the field. Funding constraints. Network limitations in field areas. Data synchronization, transaction management, and data collection procedures that ensure reported information is accurate, consistent, timely, and durable.

What is the timeframe for completion of this objective: Ongoing.

Describe the critical success factors associated with this objective: Effective business and data requirements definition. Infrastructure and processes support data quality and durability standards.

Supporting Objective/Action

Objective 8-8 Update Forestry Assistance Bureau (FAB) – Statewide Assessment of Forest Resources computer model.

Describe the business requirements or business problem driving this objective: This is a mission critical computer model that drives the FAB financial assistance programs.

Describe the benefits to be derived from the successful completion of this objective: The original state assessment model was an ArcGIS/CommunityVis product completed in June 2010. The model was initiated to provide strategic direction to delivery of Cooperative Forestry Assistance Programs. These programs average \$2-3 million per year in partnership with the US Forest Service. The model requires current datasets semi-annual maintenance.

Describe the anticipated risks associated with this objective: Lack of updates and maintenance will reduce model validity, potentially impacting DNRC credibility.

What is the timeframe for completion of this objective: FY2014/2015.

Describe the critical success factors associated with this objective: Updating all model data and providing seamless interface with the state's Forest Action Plan define critical success. The ability to provide strategic direction for program delivery on the ground equates to more efficient use of program resources and ultimately a more efficient use of tax dollars.

Goal Number 9:

IT Goal 9 Improve public access to Conservation and Resource Development Division (CARDD) program information and provide project management tools to increase staff efficiency

Description: CARDD's primary function is to assist Montanans with their efforts to benefit and sustainably develop Montana's natural resources. CARDD uses web-based databases and interactive maps to facilitate public access to DNRC information and assist staff with project management.

Benefits: CARDD will see improved staff efficiencies and increased public access to DNRC information about grants and other services that will result in better management of Montana's natural resources.

Which state strategic goal(s) and/or objective(s) does your goal address? Aggressively use technology to extend capabilities that enhance, improve, and streamline service delivery. Build an infrastructure/architecture that provides citizens and employees of the state access to information however and wherever they need it.

Supporting Objective/Action

Objective 9-1 Add programs to CARDD's on-line grants and application management WebGrants system.

Describe the business requirements or business problem driving this objective: CARDD has a specific need to track project applications, to review and score applications, and to manage active grant projects. CARDD has teamed with three other State agencies to develop a statewide grants management database called WebGrants at <https://fundingmt.org/>. CARDD is testing WebGrants for one year on the Renewable Resource Grants program. If this system increases efficiencies and provides a service to the public, CARDD will expand the system to include more grant programs. CARDD will make a determination at the end of FY2013 regarding the value of this application and grant management system.

Describe the benefits to be derived from the successful completion of this objective: Better management and tracking of contracts, grants, and loans made by the agency. Increased transparency and public access to information, reduced cost, and increased efficiency for application reviews. Ability to determine where state dollars are spent on projects, e.g. water loans, waste water treatment, restoration projects, etc.

Describe the anticipated risks associated with this objective: System may not meet all divisional expectations. CARDD will need to provide updates annually and after each legislative session to maintain the accuracy of the database. As a system shared between the State of Montana and three other states, decisions regarding functionality or maintenance require cross-agency consensus.

What is the timeframe for completion of this objective: The system is in place and operating on a trial basis for one grant program. Plan to add five grant programs by end of FY2014 if trial is successful. Need to add an interactive map component to existing program.

Describe the critical success factors associated with this objective: The ability to connect to the CGS system for fiscal tracking is not necessary for success but would be a plus. If RRGL program staff determine that the database improves efficiencies and is valued by public users, we will want to continue adding programs and maintaining the database.

Supporting Objective/Action

Objective 9-2 Develop an interactive map to track certain DNRC grants. This would be updated once a year.

Describe the business requirements or business problem driving this objective: CARDD has a business need to provide the public, local governments, and the legislature with an easy way to view information about grants funded with State funds. An interactive map would show location of current grants funded by the RRGL and RDG programs and provide information such as: grant sponsor, project title, and description.

Describe the benefits to be derived from the successful completion of this objective: Public web-based access to this information will reduce workload for DNRC staff, enable the public and decision makers to view current expenditures by the program, and encourage future applicants.

Describe the anticipated risks associated with this objective: Maintaining an updated map.

What is the timeframe for completion of this objective: FY2013.

Describe the critical success factors associated with this objective: An interactive map available to the legislature and their staff.

Supporting Objective/Action

Objective 9-3 Continue support for the 310 database and update it to meet today's standards.

Describe the business requirements or business problem driving this objective: CARDD has a specific need to provide a web-based means for Conservation Districts and CARDD staff to track 310 projects across the state. This database is already in place.

Describe the benefits to be derived from the successful completion of this objective: Improve access to the program by the public, improve CD's ability to manage the 310 program and determinations on future

applications.

Describe the anticipated risks associated with this objective: Maintaining database updates.

What is the timeframe for completion of this objective: Ongoing, FY2013/FY2014.

Describe the critical success factors associated with this objective: Database is accessed by CDs when making determinations about 310 permits.

Supporting Objective/Action

Objective 9-4 Create access for conservation districts to view and print district boundary maps and to begin testing boundary data for accuracy.

Describe the business requirements or business problem driving this objective: CARDD has a business need to allow CD use of an existing database that shows district boundaries. CD boundaries can change and CDs need to be able to keep the district boundary maps up to date.

Describe the benefits to be derived from the successful completion of this objective: Accurate CD boundary maps assist DNRC and CDs with determining jurisdiction and location of rate-payers.

Describe the anticipated risks associated with this objective: CDs may rely on current methods and not use this system.

What is the timeframe for completion of this objective: FY2013.

Describe the critical success factors associated with this objective: CD access to the district boundaries and a mechanism in place to make changes requested by the CD.

Supporting Objective/Action

Objective 9-5 Develop an interactive map to track water reservations use. This would be updated once a year every January.

Describe the business requirements or business problem driving this objective: CARDD has a business need to assist conservation districts by making water reservation information more easily available to the public. This information includes: authorized users, authorized amounts, location of diversions, acres irrigated, etc.

Describe the benefits to be derived from the successful completion of this objective: Public web-based access to this information may reduce workload for the CDs and increase accessibility to the public for this type of information.

Describe the anticipated risks associated with this objective CDs may rely on current methods and not use this system.

What is the timeframe for completion of this objective: FY2013.

Describe the critical success factors associated with this objective: Determining the scope of the project, building the database, and populating it with information.

Supporting Objective/Action

Objective 9-6 Remove the Restoration Program database from the server and website.

Describe the business requirements or business problem driving this objective: This database is no longer active.

Describe the benefits to be derived from the successful completion of this objective: Removes a source of incomplete information from public access.

Describe the anticipated risks associated with this objective: None.

What is the timeframe for completion of this objective: FY2013.

Describe the critical success factors associated with this objective: Removal of the Restoration Database.

Goal Number 10:

IT Goal 10 Update and improve applications critical to operations of the Board of Oil and Gas Conservation

Description: Upgrade and enhance legacy systems providing data services for internal and external stakeholders.

Benefits: Improved management of oil and gas resources. Enhanced ability for stakeholders to obtain information and interact with BOGC staff.

Which state strategic goal(s) and/or objective(s) does your goal address? Aggressively use technology to extend capabilities that enhance, improve, and streamline service delivery. Build an infrastructure/architecture that provides citizens and employees of the state access to information however and wherever they need it. Enhance the reliability and security of the state's information systems.

Supporting Objective/Action

Objective 10-1 Migrate existing hardware and software systems to modern platforms.

Describe the business requirements or business problem driving this objective: BOGC systems have been developed and deployed incrementally over a twelve year period and become critical to many operations involving multi-state stakeholders. The systems need to be migrated to modern, supported architectures and technology platforms to ensure long-term supportability, scalability, security, and continuity of operations.

Describe the benefits to be derived from the successful completion of this objective: Increased reliability, recoverability, scalability, security, and manageability of systems. Improved data quality. Leveraging existing state enterprise resources and DNRC IT assets can provide substantial efficiency gains. Ability to ensure continuity of government services. Improved ability to provide for long-term sustainability of services.

Describe the anticipated risks associated with this objective: Complexity of systems may require extensive resources to implement and could result in service outages. Network bandwidth limitations may impact performance. Management and oversight of external contractors.

What is the timeframe for completion of this objective: FY2013.

Describe the critical success factors associated with this objective: Systems and services effectively operating on modern, supported platforms. Ability to set and meet availability, recoverability, and performance targets. Compliance with state information technology policies.

Supporting Objective/Action

Objective 10-2 Enhance BOGC systems through addition of new business features.

Describe the business requirements or business problem driving this objective: Address new development to expand the capabilities of existing systems.

Describe the benefits to be derived from the successful completion of this objective: Improved access to information assets and management of resources. Increased efficiency and effectiveness of business operations.

Describe the anticipated risks associated with this objective: Improvements may cause conflicts with existing operations. Development may require more resources than available. Coordination between internal staff and external contractor.

What is the timeframe for completion of this objective: Ongoing, beginning after completing migration of current systems as outlined in Objective 10-1.

Describe the critical success factors associated with this objective: Improved ability for internal and external stakeholders to access and maintain information assets.

SECTION 5: IT INITIATIVES (FY2012 – FY 2017)

Initiative 1 CSD/OIT Applications Development

Description: Provide capabilities with respect to mobile, GIS, and other high priority application development initiatives.

EPP Number: 2101

Initiative 2 DNRC Records Management

Description: Implement a pilot project to transition from paper based records to an electronic records management system for the storage, maintenance, retrieval, and disposal of DNRC records in accordance with the agency's records retention policy.

EPP Number: 2102

Initiative 3 OIT GIS Developer

Description: Provide capabilities to architect and develop new, high priority geospatial databases and specialized desktop, web, and mobile applications.

EPP Number: TBD

SECTION 6: ENTERPRISE ALIGNMENT

Communities of Interest Participation

- ☒ Government Services
- ☐ Public Safety
- ☐ Human Resources
- ☒ Environmental
- ☐ Education
- ☐ Economic
- ☐ Cultural Affairs
- ☐ Finance

SECTION 7: PLANNED AGENCY IT EXPENDITURES

<u>Expense Category</u>	<u>FY2012</u>	<u>FY2013</u>	<u>FY2014</u>	<u>FY2015</u>	<u>FY2016</u>	<u>FY2017</u>
Personal Services	\$1,559,037	\$1,605,808	\$1,653,982	\$1,703,602	\$1,754,710	\$1,807,351
Operating Expenses	\$1,997,161	\$2,057,076	\$2,118,788	\$2,182,352	\$2,247,822	2,315,257
Initiatives	0	0	\$234,646	\$234,646	0	0
Other expenditures	\$38,954	\$10,000	\$10,000	0	0	0
Totals	\$3,595,152	\$3,672,884	4,017,416	\$4,120,600	\$4,002,532	\$4,122,608

Note: Above includes an estimated 3% annual increase for personal services and operating expenses in FY2013-FY2017.

SECTION 8: ADDITIONAL INFORMATION - OPTIONAL

Other types of information that support the agency's IT Plan. Some examples might include other COI participation, reference to other IT plans such as GIS plan, eGovernment plan, security plan, staffing issues and constraints, etc.